

The Role of Functional Teams in Optimizing SAP APO Demand Planning System Performance

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SAP Americas

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Planning Area Considerations

Planning Books and Macros

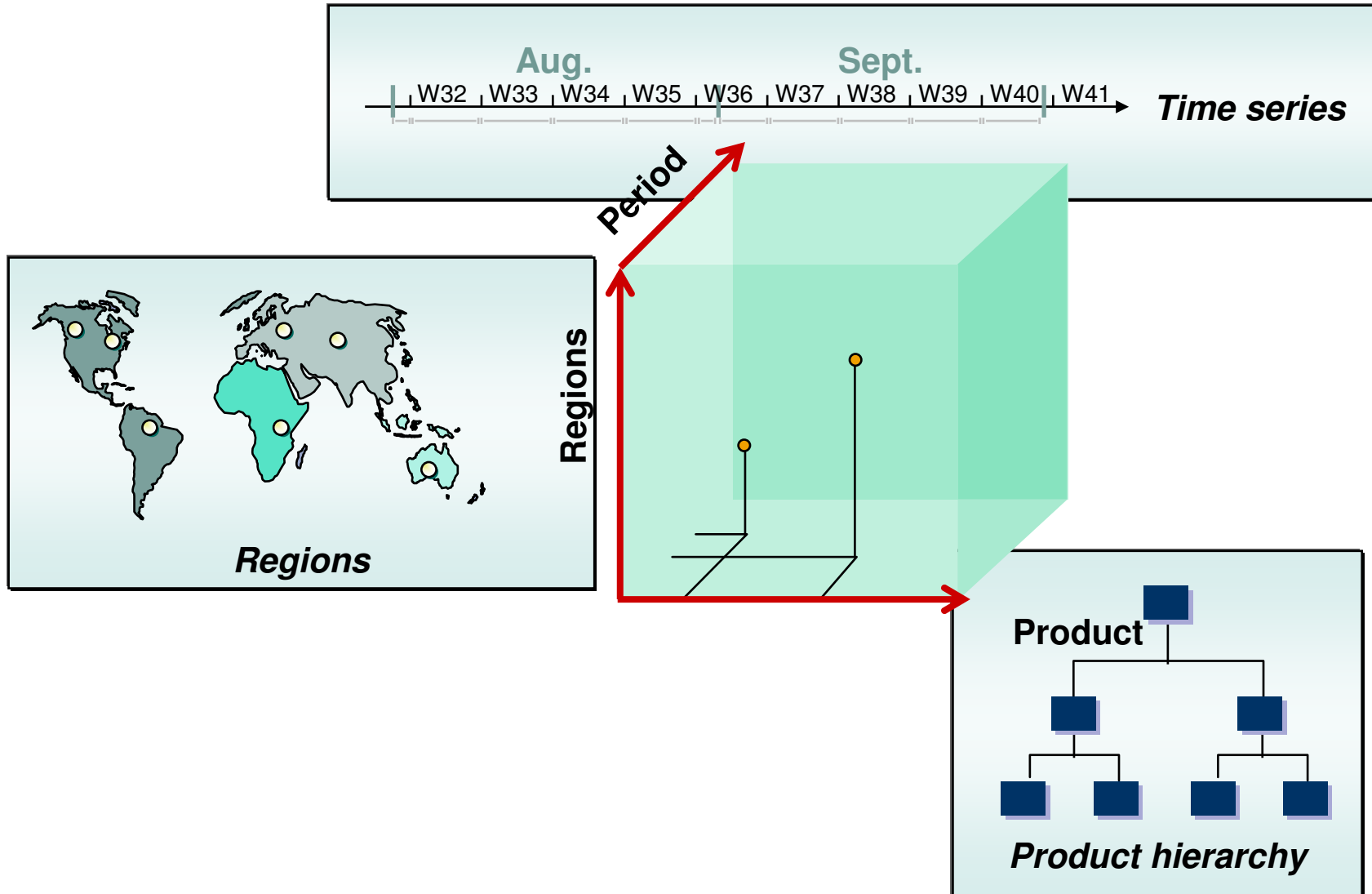
Batch Processing

Sizing

Three factors determine planning area performance:


- **Dimension definition in the planning object structure**
- **Number of key figures in planning area**
- **Time horizons**


Planning Area




Dimensions

- Dimensions are used to group characteristics logically
- A dimension table contains a primary key, a dimension number, and characteristics

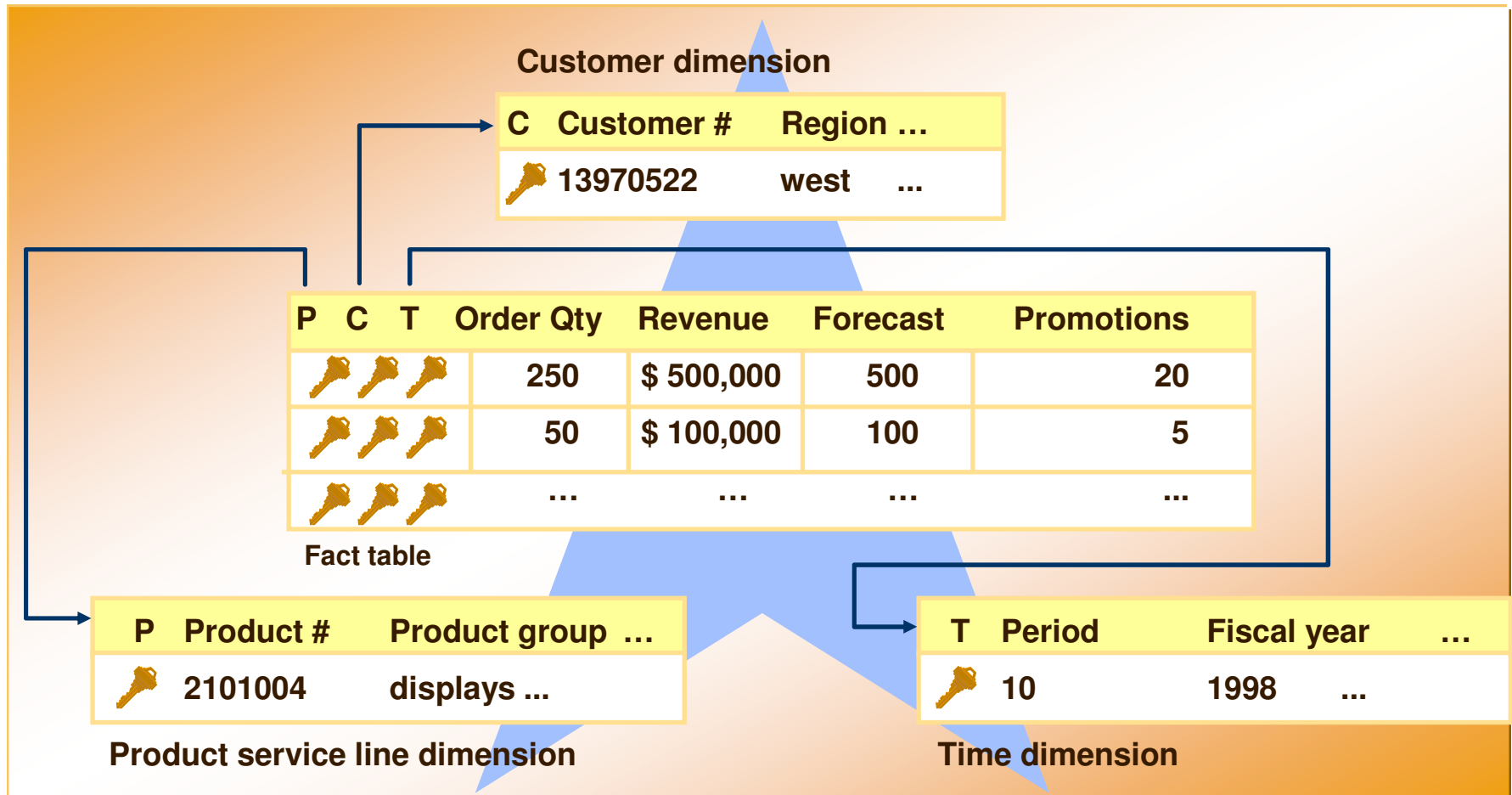
Customer dimension			
C	Customer #	Region	...
	13970522	'west	' ...

Product Service Line dimension		
P	Product #	Product group ...
	2101004	'displays ...

Time dimension			
T	Period	Fiscal year	...
	10	1998	' ...

Planning Object Structure

The combinations of fact and dimension tables



■ Typical recommendation:

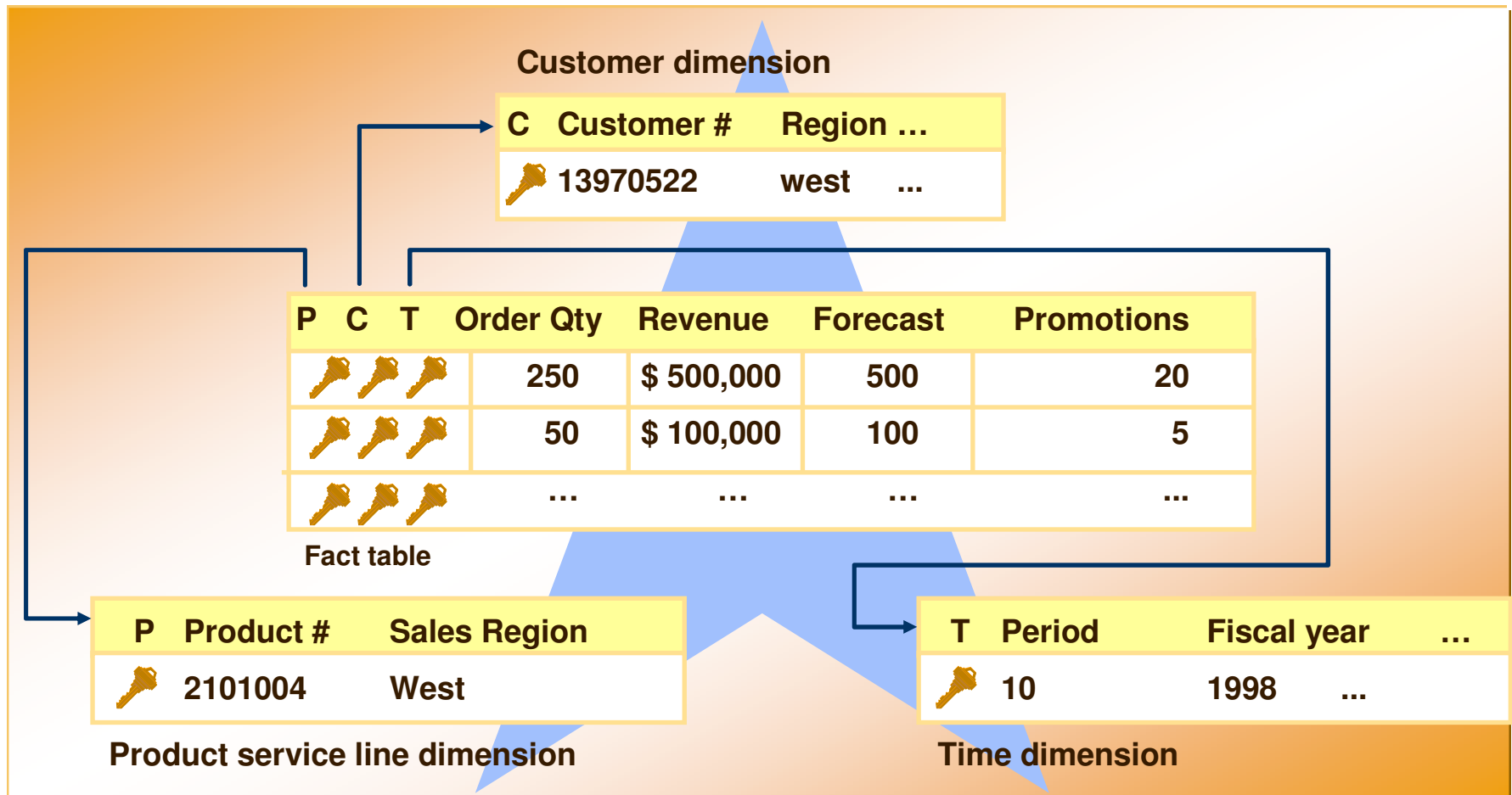
- Make each dimension equal to one hierarchy
- Don't make a dimension with too many relationships

■ Performance in practice:

- Consider the dimension definition that matches selection criteria
- Continue to watch the size of a given dimension table

Alternate Dimension Definition

The combinations of fact and dimension tables



Loaded into system:

History

External forecast

Calculated or entered in APO Demand Planning (DP):

Total forecast

Planner adjustment

Forecast error

Questions to ask:

- Is this only for reporting (move to BW)?
- Is this calculated dynamically on the screen (consider planning book key figure)?
- Do I need to report on the data in this key figure?

Key Figures in Planning Area

- **Limit the number of key figures in the planning area where possible**
- **Know that the number of key figures in liveCache will have an effect on performance**
- **Recognize that you have other options to storing every key figure in liveCache**

Planning Area Considerations

Planning Books and Macros

Batch Processing

Sizing

- **Planning book**
 - **Planning books are based on a planning area**
 - **Used for APO DP and Supply Network Planning (SNP)**
 - **Creation with Planning Book Wizard**
 - **One planning book consists of one or more planning views**
- **Planning view**
 - **Define layout -> arrange container and graphics in various ways**
 - **Grouping of rows in planning view**
 - **Allows different layouts of the planning book that can be assigned to different planners**
 - **View specific macros**

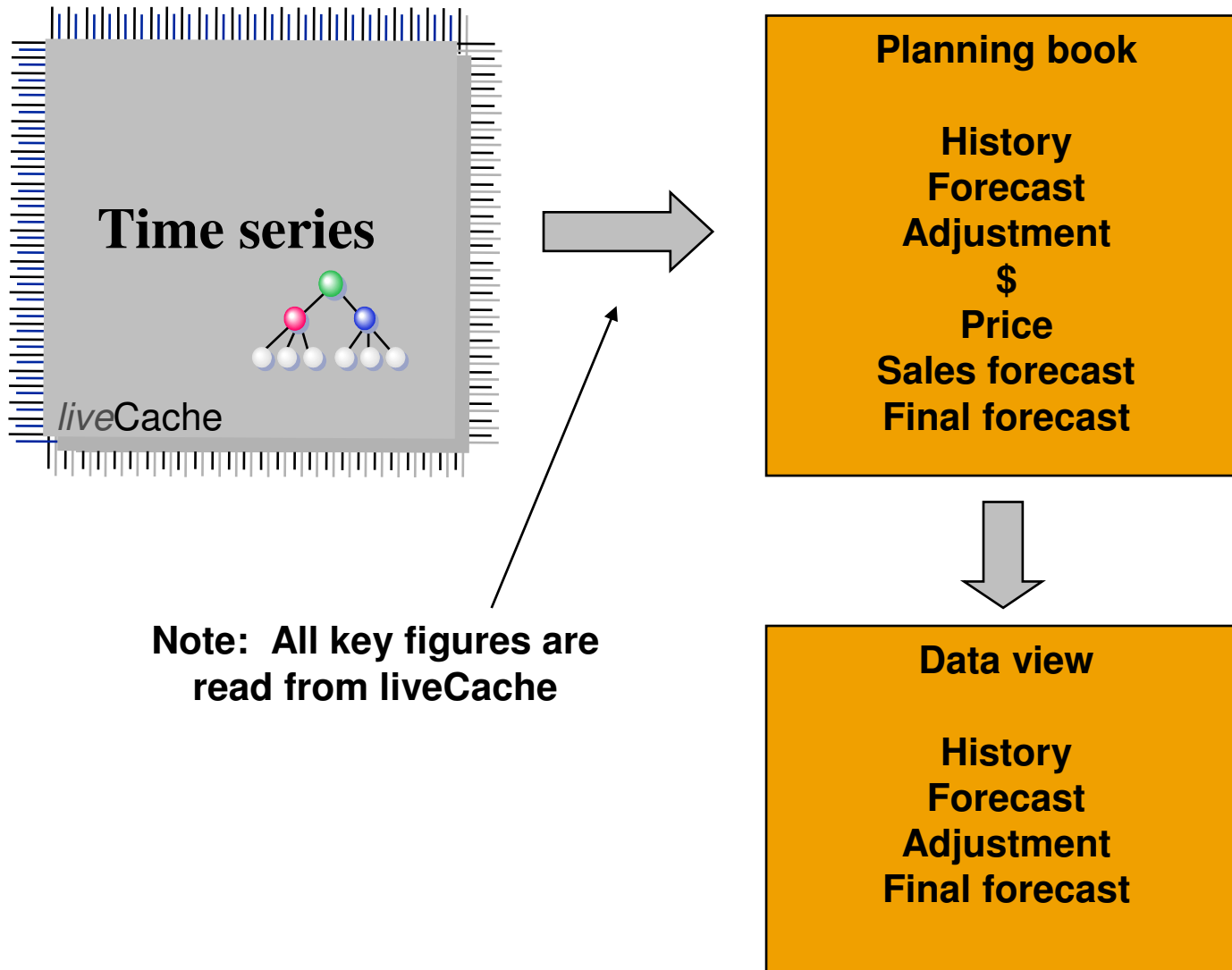
Interactive Demand Planning

APO - Product ↑ ↓ Total APO - Product ↑ ↓ Total

Design Graph @Capacity Leveling

ID	Object	Text	Grid 1	W 24	W 25	W 26	W 27	W 28
ICECREAM		Vanilla	History					
ICECREAM_CH		Chocolate	Corrected History					
ICECREAM_ST		Strawberry	Forecast					
MIXEDPACK		Mixed Pack	Promotions					
			Total Forecast					
Selection Profile Stenger ICECREAM			Grid 2	W 24	W 25	W 26	W 27	W 28
			Independent Demand					
			Dependent Demand					
			History					
Planning Book								

Reading Data from liveCache



Common Mistakes with Planning Books

- Too many key figures
- Unnecessary horizons
- Inefficient macro calculations

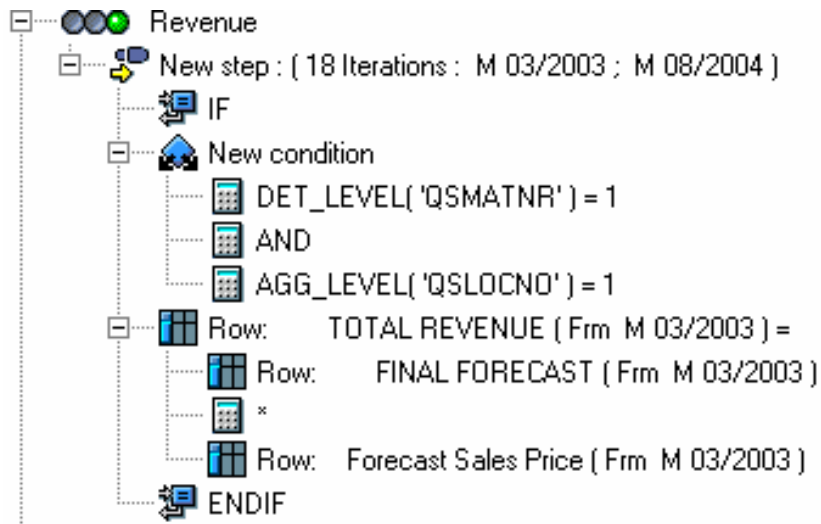
■ Planning Book Design Guidelines

- **Limit the number of key figures**
 - Generally keep to less than 20
 - Only include what the user of that planning book needs
 - It is not necessary to have a view with every key figure in it
 - Don't be afraid to add planning books to the system
- **Consider reducing the characteristics available**
 - If users always select at the same level of aggregation, try putting only those characteristics in the planning book
- **Hide key figures that are calculation only**
- **Use planning book key figures (not defined in planning area)**
 - Only for display
 - Better performance when saving data
- **Audit macro definition for performance**

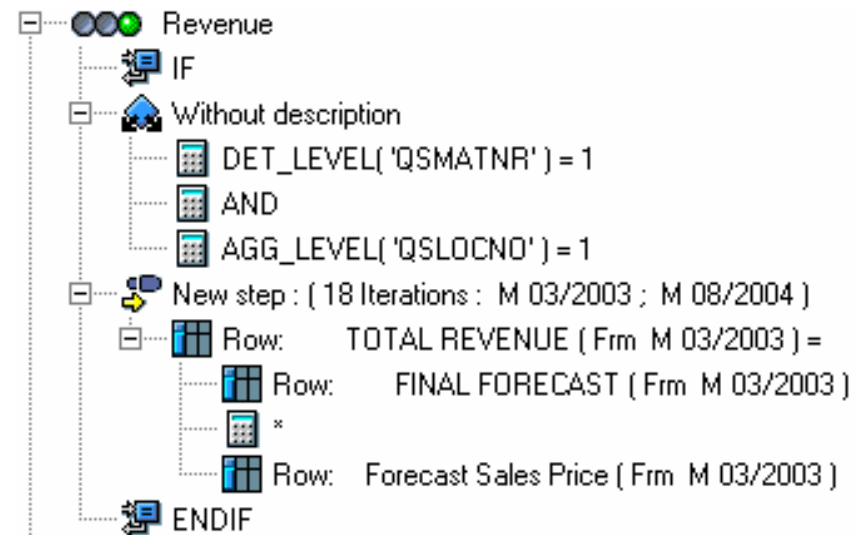
■ Condition statements

- Do not nest the condition in the step if it only needs to be checked once
- Do not check AGG_LEVEL and DET_LEVEL on background jobs

Incorrect

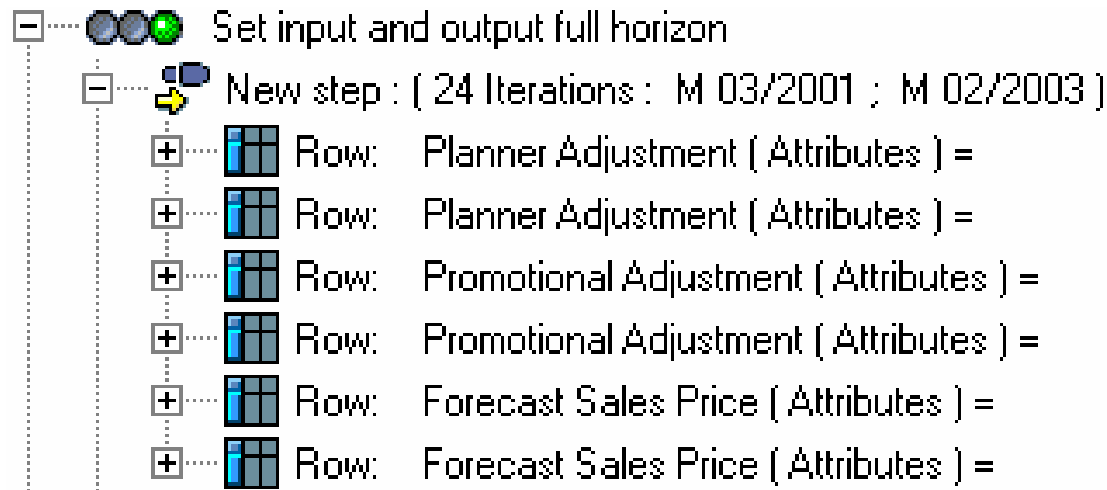


Correct



■ Combining multiple steps

■ One step with multiple operations



■ Horizons

- Only calculate on what is necessary
- Row attributes only need one iteration

■ Default macros

- Level change may be an appropriate substitute
- Consolidation of steps

Planning Area Considerations

Planning Books and Macros

Batch Processing

Sizing

Planning Book for Batch Process

SAP

Interactive Demand Planning

APO - Product ↑ ↓ Total | APO - Product ↑ ↓ Total

Design Graph Capacity Leveling ✓

ID	Object	Text	Forecast Data	W 24	W 25	W 26	W 27	W 28
ICECREAM		Vanilla						
ICECREAM_CH		Chocolate						
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MIXEDPACK		Mixed Pack						
Selection Profile			History					
Stenger			Corrected History					
ICECREAM			Forecast					
			Promotions					
			Total Forecast					
Planning Book								

Planning Book for Batch Process

SAP

Interactive Demand Planning

APO - Product ↑ ↓ Total |
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Design Graph Capacity Leveling

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			Promotions					
			Total Forecast					

Selection Profile
 Stenger
 ICECREAM

Planning Book

Do:

- Create a separate planning book for each Job
- Combine macros that use similar key figures into a single job (multiple actions)
 - Consider aggregation level and time horizon as well

Don't:

- Use default macros in mass-processing planning books
- Include history when it is not part of the calculation

Planning Area Considerations

Planning Books and Macros

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Relevant Fields for Demand Planning

mySAP Supply Chain Management (Release 4.0)

Demand Planning

	Planning area 1	Planning area 2
Number of characteristic combinations	<input type="text"/>	<input type="text"/>
Number of keyfigures in planning horizon	<input type="text"/>	<input type="text"/>
Number of periods in planning horizon	<input type="text"/>	<input type="text"/>
Number of key figures in the historical horizon	<input type="text"/>	<input type="text"/>
Number of periods in the historical horizon	<input type="text"/>	<input type="text"/>
Total number of key figures in the entire horizon	<input type="text"/>	<input type="text"/>
Total number of periods in the entire horizon	<input type="text"/>	<input type="text"/>
Compression index (0 = pessimistic - 10 = optimistic)	<input type="text" value="05"/>	<input type="text"/>
Number of compressed time series (optional)	<input type="text"/> %	<input type="text"/> %
Number of periods in the compressed time series (optional)	<input type="text"/>	<input type="text"/>
Number of planning versions in the InfoCube	<input type="text"/>	<input type="text"/>
Number of planning versions in the liveCache	<input type="text"/>	<input type="text"/>

These are the main drivers for sizing liveCache

mySAP Supply Chain Management (Release 4.0)

Demand Planning

	Planning area 1	Planning area 2
Number of characteristic combinations	<input type="text"/>	<input type="text"/>
Number of keyfigures in planning horizon	<input type="text"/>	<input type="text"/>
Number of periods in planning horizon	<input type="text"/>	<input type="text"/>

Three independent sets of key figures

Number of keyfigures in planning horizon	<input type="text"/>	} Set 1
Number of periods in planning horizon	<input type="text"/>	
Number of key figures in the historical horizon	<input type="text"/>	} Set 2
Number of periods in the historical horizon	<input type="text"/>	
Total number of key figures in the entire horizon	<input type="text"/>	} Set 3
Total number of periods in the entire horizon	<input type="text"/>	

Used to estimate the number of key figures that will be compressed in liveCache

Compression index (0 = pessimistic - 10 = optimistic)	<input type="text" value="05"/>
Number of compressed time series (optional)	<input type="text"/> %
Number of periods in the compressed time series (optional)	<input type="text"/>
Number of planning versions in the InfoCube	<input type="text"/>
Number of planning versions in the liveCache	<input type="text"/>

Common Sizing Mistakes

- **Overestimation of characteristic combinations**
 - **Functional team**
- **Overestimation of number of key figures**
 - **“I want it all”**
- **Compression estimate**

7 Key Points to Take Home

- **Dimensions in the planning object structure are important**
- **The number of key figures in a planning book, not a data view, drives interactive performance**
- **Keep planning books simple, for performance sake**
- **Poor macro design will impact interactive planning performance**
- **Combine macros and forecast into as few jobs as possible**
- **Create specific planning books for mass processing jobs**
- **Key drivers of sizing: key figures, characteristic combinations, and time horizons**

SAP Documentation

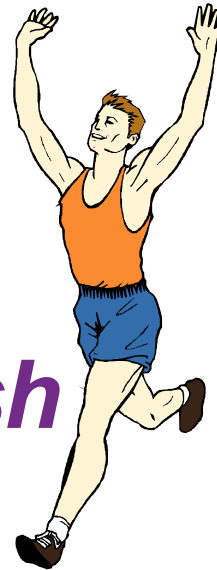
<http://help.sap.com>

- Documentation>mySAP Business Suite>SAP Supply Chain Management

SAP Service Marketplace

<http://service.sap.com>

Q&A?



Finish

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